State of Utah

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Department of
Environmental Quality

Richard W. Sprott
Executive Director

DIVISION OF AIR QUALITY
Cheryl Heying
Director

DAQE-IN0129100004-08

August 21, 2008

John R. Gibson, President
American Pacific Corporation
10622 West 6400 North
Cedar City, Utah 84720

Dear Mr. Gibson:

Re: Intent to Approve: Installation of a New Scrubber, Iron County – CDS B; ATT
Project Code: N012910-0004

The attached document is the Intent to Approve for the above-referenced project. The Intent to Approve is subject to public review. Any comments received shall be considered before an Approval Order is issued. The Division of Air Quality is authorized to charge a fee for reimbursement of the actual costs incurred in the issuance of an Approval Order. An invoice will follow upon issuance of the final Approval Order.

Future correspondence on this Intent to Approve should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. Please direct any questions you may have on this project to Mr. Nando Meli. He may be reached at (801) 536-4052.

Sincerely,

John T. Blanchard, Manager
Minor New Source Review Section

JTB:NM:kw

cc: Southwest Utah Public Health Department

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

INTENT TO APPROVE: Installation of a New Scrubber

Prepared By: Nando Meli, Engineer
(801) 536-4052
Email: nmeli@utah.gov

INTENT TO APPROVE NUMBER

DAQE-IN0129100004-08

Date: August 21, 2008

American Pacific Corporation

Source Contact
Frank Casperson
(435) 865-5000

M. Cheryl Heying
Executive Secretary
Utah Air Quality Board

Abstract

American Pacific Corporation is replacing a scrubber in their product dust collection process. The new scrubber will be more efficient with a 95% rating at controlling PM_{10}. Currently the scrubber flow rates are required to be maintained and cannot fall below the limits for more than five minutes within a sixty minute period. They have requested that this time limit to be increased to allow for variations in the work flow. The time will be increased to 10 minutes within a sixty minute period. The Approval Order conditions have been modified to reflect the methodology presently used to control emissions. The titles for the equipment in the equipment list is being modified so that they will correlate to the correct names and terminology used at the plant. They have requested an increase in the annual hours of operation for the production flare from 7,200 to 8760 hours.

The sodium azide plant is located in Iron County which is an attainment area of the National Ambient Air Quality Standards (NAAQS) for all pollutants. New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP) and Maximum Achievable Control Technology (MACT) regulations do not apply to this source. Title V of the 1990 Clean Air Act does not apply to this source. The emissions, in tons per year, will increase as follows: PM_{10} + 2.40, NO_x + 1.00, CO + 0.40, and VOC + 1.63. The changes in emissions will result in the following, in tons per year, potential to emit totals: PM_{10} = 14.85, NO_x = 9.93, SO_2 = 0.19, CO = 6.36, VOC = 4.02 and HAPs = 2.13, and the minimum scrubber flow rates.

The Notice of Intent (NOI) for the above-referenced project has been evaluated and has been found to be consistent with the requirements of the Utah Administrative Code Rule 307 (UAC R307). Air pollution producing sources and/or their air control facilities may not be constructed, installed, established, or modified prior to the issuance of an Approval Order (AO) by the Executive Secretary of the Utah Air Quality Board.

A 10-day public comment period will be held in accordance with UAC R307-401-7. A notice of intent to approve will be published in The Daily Spectrum on August 24, 2008. During the public comment period the proposal and the evaluation of its impact on air quality will be available for the public to review and provide comment. If anyone so requests a public hearing, it will be held in accordance with UAC R307-401-7. The hearing will be held as close as practicable to the location of the source. Any comments received during the public comment period and/or the hearing will be evaluated.

Please review the proposed AO conditions during this period and make any comments you may have. The proposed conditions of the AO may be changed as a result of the comments received. Unless changed, the AO will be based upon the following conditions:

General Conditions:

1. This AO applies to the following company:

   Site Office

   American Pacific Corporation (AMPAC)
   10622 West 6400 North
   Cedar City, Utah 84720

Phone Number: (435) 865-5000
Fax Number: (435) 865-5005

The equipment listed in this AO shall be operated at the following location:

10622 West 6400 North, Cedar City, Iron County, Utah

Universal Transverse Mercator (UTM) Coordinate System: UTM Datum NAD27
4,185.6 kilometers Northing, 299.1 kilometers Easting, Zone 12

2. All definitions, terms, abbreviations, and references used in this AO conform to those used in the Utah Administrative Code (UAC) Rule 307 (R307) and Title 40 of the Code of Federal Regulations (40 CFR). Unless noted otherwise, references cited in these AO conditions refer to those rules.

3. The limits set forth in this AO shall not be exceeded without prior approval in accordance with R307-401.

4. Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved in accordance with R307-401.

5. All records referenced in this AO which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or Executive Secretary's representative upon request. Records shall be kept for the following minimum periods:

   A. Emission inventories five years from the due date of each emission statement or until the next inventory is due, whichever is longer.

   B. All other records Two years

6. American Pacific Corporation (AMPAC) shall install and operate the sodium azide dryer dust collector scrubber and shall conduct its operations of the sodium azide plant in accordance with the terms and conditions of this AO, which was written pursuant to AMPAC's Notice of Intent submitted to the Division of Air Quality (DAQ) on May 2, 2008 and additional information submitted to the DAQ on August 7, 2008.

7. This AO shall replace the AO (DAQE-AN29100002-06) dated August 11, 2006.

8. The approved installations shall consist of the following equipment or equivalent*:

   A. Dixon 900 Horsepower (Hp) natural gas boiler employing Flue Gas Recirculation with Oxygen Trim for control Boiler A (West) (E1)

   B. Dixon 900 Hp natural gas boiler employing Flue Gas Recirculation with Oxygen Trim for control Boiler A (East) (E2)

   C. Cummins 400 Hp diesel fire water pump (E3)

   D. Mist eliminator, prefilter, and a HEPA filter Anode Building (E4)

E. Cyclone, and an Airpro DCE Model 1/7/15 baghouse with pulse air cleaning and Nomex filters Graphite baghouse (E5)

F. Combination packed/spray scrubber “A” circuit scrubber (caustic scrubber - E7)

G. Combination packed/spray scrubber “B” circuit scrubber (caustic scrubber - E8)

H. Combination packed/spray scrubber “C” circuit scrubber (caustic scrubber - E9)

I. Combination packed/spray scrubber “D” circuit scrubber (caustic scrubber - E10)

J. Combination packed/spray scrubber “E” circuit scrubber (caustic scrubber - E11)

K. Spray chamber “A” circuit vent scrubber (caustic scrubber - E12)

L. Spray chamber “B” circuit vent scrubber (caustic scrubber - E13)

M. Spray chamber “C” circuit vent scrubber (caustic scrubber - E14)

N. Spray chamber “D” circuit vent scrubber (caustic scrubber - E15)

O. Spray chamber “E” circuit vent scrubber (caustic scrubber - E16)

P. Packed scrubber HCl unloading scrubber (saddle packing - E17)

Q. Packed scrubber “A” reactor/544A scrubber (saddle packing - E18)

R. Packed scrubber “A” reactor/544A scrubber (saddle packing - E19)

S. Boliden Allis cyclone and scrubber “A” dryer wet scrubber (E20)

T. Boliden Allis cyclone and scrubber “B” dryer wet scrubber (E21)

U. Wet Dust Collector (E22) for the control of perchlorate and/or chlorate dust from the batch dryer dust control system.

Manufacturer	AAF International
Scrubber Type	Orifice Water Curtain
Gas Flow Rate	5945 actual cubic feet per minute (acfm)**
Scrubbing Medium	Water
Minimum Stack Height:	20 feet above ground level

V. Wet Dust Collector (E23) for the control of perchlorate and/or chlorate dust from Blender A dust control system

Manufacturer	AAF International
Scrubber Type	Orifice Water Curtain (Hydrostatic Precipitator)
Gas Flow Rate	5800 acfm**
Scrubbing Medium	Water
Minimum Stack Height:	20 feet above ground level

W. Wet Dust Collector (E24) for the control of perchlorate and/or chlorate dust from Blender B dust control system

Manufacturer	AAF International
Scrubber Type	Orifice Water Curtain (Hydrostatic Precipitator)
Gas Flow Rate	5800 acfm**
Scrubbing Medium	Water
Minimum Stack Height:	20 feet above ground level

X. Sodium Amide Stainless Steel Reactors off gas scrubber Azide (E-25)

Manufacturer:	Pepcon Systems, Inc.
Scrubber Type:	Packed Tower with Countercurrent Flow
Packing Specifications:	One inch plastic Tripack
Gas Flow Rate:	30 to 240 acfm**
Liquid Recirculation Rate:	No less than 44 gallons per minute (gpm)
Scrubbing Medium:	Water
Scrubbing Liquid Exchange Rate:	0.67 to 5.1 gpm of fresh water added to system**
Minimum Stack Height:	48 feet above ground level

Y. Ammonia Hydroxide Storage Tank scrubber Azide (E-26)

Manufacturer:	Pepcon Systems, Inc.
Scrubber Type:	Packed Tower with Countercurrent Flow
Packing Specifications:	0.625 inch plastic Norpack
Air flow rate:	4.5 acfm**
Liquid Flow Rate:	No less than 0.2 gpm
Scrubbing Medium:	Water
Scrubbing Liquid Exchange Rate:	Not Recirculated
Minimum Stack Height:	29 feet above ground level

Z. Sodium Azide Dryer Dust Collector Scrubber 116 Dryer Building Azide (E-27)

Manufacturer:	American Air Filter
Scrubber Type:	Type N Rotoclone Model LV Hydrostatic
Air volume:	1,000 acfm**
Scrubbing Medium:	Water
Minimum Stack Height:	32 feet above ground level

AA. Maintenance Building Scrubber Azide 103 area (E-28)

Manufacturer:	Pepcon Systems, Inc.
Scrubber Type:	Packed Tower with Countercurrent Flow
Packing Specifications:	Two inch plastic Jaeger Tri-packs
Gas Flow Rate:	200 to 1200 acfm**
Liquid recirculation rate:	No less than 23 gpm
Scrubbing Medium:	Water
Scrubbing Liquid Exchange Rate:	Eight gallon of fresh water per hour added to the system
Minimum Stack Height:	at least 40 feet above ground level

BB. Sodium Azide Blender Dust Collector Scrubber 125 Blender Building Azide (E-29)

Manufacturer:	AAF International
Scrubber Type:	Orifice water curtain
Air Flow Rate:	2500 acfm**
Scrubbing Medium:	Water
Minimum Stack Height:	20 feet above ground level

CC. Natural Gas Fired Oil Heater (E-30)

Manufacturer:	First Thermal Systems
Type of Burner:	40 ppm NO_x
Heating Capacity:	5.4×10^6 British Thermal Units per hour

DD. Two Emergency Generators

Electrical Output:	3500 Kilowatts (kW) (E-31)
Electrical Output:	500 kW (E-32)

EE. AZIDE Evaporation Pond - surface area - 200 ft x 200 ft at the mean water line (mean water line is 3.5 ft below the top of the pond)

FF. WECCO Evaporation Pond - surface area - 170 ft x 370 ft at the mean water line (mean water line is 4.0 ft below the top of the pond)

GG. Sodium Methylate production plant controlled by a flare (E33)

HH. Misc. fume hood vents

* Equivalency shall be determined by the Executive Secretary.
** These equipment specifications are listed for informational purposes only.

9. AMPAC shall notify the Executive Secretary in writing when the installation of the E27 scrubber listed in Condition #8.Z has been completed and is operational. To insure

proper credit when notifying the Executive Secretary, send your correspondence to the Executive Secretary, attn: Compliance Section.

If the installation has not been completed within eighteen months from the date of this AO, the Executive Secretary shall be notified in writing on the status of the installation. At that time, the Executive Secretary shall require documentation of the continuous installation of the equipment and may revoke the AO in accordance with R307-401-18.

Limitations and Test Procedures

10. Visible emissions from the following emission points shall not exceed the following values:

    A. 5% opacity for visible or fugitive emissions associated with the sodium azide operation.

    B. 10% opacity for visible or fugitive emissions associated with the ammonium perchlorate operation.

    C. 10% opacity for the fume hoods.

    D. 10% opacity for all baghouses.

    E. 15% opacity for all scubbers and wet dust collectors.

    F. 20% opacity for all diesel fired generators and fire pumps.

    G. All other points - 20% opacity

    Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

11. The following production and consumption limits shall not be exceeded:

    A. Sodium azide and silicon dioxide (used for packing) production

        1) 3000 tons per rolling 12-month period
        2) 10 tons per day

    B. 28% ammonium hydroxide solution production

        1) 15,600 tons per rolling 12-month period
        2) 4200 pounds per hour

    C. 50% sodium hydroxide solution production

        1) 3830 tons per rolling 12-month period
        2) 1100 pounds per hour

    D. 5130 tons of ammonia gas consumed per rolling 12-month period

E. 2050 tons of Nitrous oxide consumed per rolling 12-month period

F. 21.0 tons of Silicon Dioxide consumed per rolling 12-month period

G. 4.0 tons Raney Nickel Catalyst consumed per rolling 12-month period.

H. 334 MMCF Total Natural Gas Consumption per rolling 12-month period.

I. 40,000,000 pounds of perchlorate and/or chlorate production per rolling 12-month period.

J. 4,320 batches per rolling 12-month period total for emission points E18 and E19

K. 7,920 hours of operation per rolling 12-month period for emission point E4.

L. 8,000 hours of operation per rolling 12-month period for each emission point E20, E21, E22, E23, and E24

M. 4,400 hours per rolling 12-month period of operation for emission point E28.

N. 90 hours per rolling 12-month period of operation for emission point E31.

O. 70 hours per rolling 12-month period of operation for emission point E32.

To determine compliance with a rolling 12-month total the owner/operator shall calculate a new 12-month total by the twentieth day of each month using data from the previous 12 months. Records of consumption/production shall be kept for all periods when the plant is in operation. Production/Consumption shall be determined by production logs and operation logs. The records of consumption/production shall be kept on a daily basis. Hours of operation shall be determined by the supervisor monitoring and maintaining an operations log.

12. Emergency generators shall be used for electricity producing operation only during the periods when electric power from the public utilities is interrupted, or maintenance. Records documenting the generator usage shall be kept in a log and they shall show the date the generators were used, the duration in hours of the generator usage, and the reason for each generator usage.

13. The following emission points scrubber liquid flow rates shall be maintained with the indicated ranges:

A. (E7-E11) Not less than 250 gallons per minute

B. (E12-E16) Not less than 1 gallon per minute

C. (E17-E-19) Not less than 16 gallons per minute

D. (E20-E21) Not less than 10 gallons per minute

E. (E25) Not less than 44 gallons per minute

F. (E26) Not less than 0.20 gallons per minute

G. (E28) Not less than 23 gallons per minute

The flow rates shall be continuously monitored with equipment located such that an inspector/operator can safely read the output at any time. The monitoring devices shall be certified by the manufacturer. The monitored flow rate shall be accurate to within plus or minus 5 percent. The scrubbing liquid flow rate shall not fall below the above stated flow rate for more than 10 minutes within any 60-minute period. The monitoring devices must be calibrated on an annual basis in accordance with the manufacturer's instructions. Emission point E-25 flow rate shall be continuously recorded. All other emission point flow rates shall be recorded once per shift.

14. AMPAC shall install, calibrate, maintain, and operate a monitoring device for the continuous measurement of pressure drop. The pressure drop shall not be less than 5.5 inches of water column at the inlet and not more than 12.0 inches of water column for the Perchlorate and/or Chlorate Blender A and B Wet Dust Collector (E23 and E24) and the Sodium Azide Blender Dust Collector Scrubber (E-29).

15. The scrubber liquid in the Perchlorate and/or Chlorate Blender A and B Wet Dust Collector (E23 and E24) and the Sodium Azide Dust Collector Scrubbers (E-27 and E-29) shall not exceed 1130 grams of weight per liter of liquid or 130 grams of particulate dissolved in 1 liter of water. Measurements shall be taken and recorded once per shift.

16. The primary road to the facility shall be paved. All parking areas within the facilities shall be paved with asphalt, as shall the areas around the warehouse, maintenance building and shipping receiving areas where vehicular access is provided.

Records & Miscellaneous

17. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this Approval Order, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on the information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on the equipment authorized by this AO shall be recorded.

18. The owner/operator shall comply with R307-107. General Requirements: Unavoidable Breakdowns.

The Executive Secretary shall be notified in writing if the company is sold or changes its name.

Under R307-150-1, the Executive Secretary may require a source to submit an emission inventory for any full or partial year on reasonable notice.

This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including R307.

A copy of the rules, regulations and/or attachments addressed in this AO may be obtained by contacting the Division of Air Quality. The Utah Administrative Code R307 rules used by DAQ, the Notice of Intent (NOI) guide, and other air quality documents and forms may also be obtained on the Internet at the following web site:

http://www.airquality.utah.gov/

The annual emission estimations below include point source, fugitive emissions, fugitive dust, road dust and do not include tail pipe emissions, grandfathered emissions etc. These emissions are for the purpose of determining the applicability of Prevention of Significant Deterioration, nonattainment area, maintenance area, and Title V source requirements of the R307. They are not to be used for determining compliance.

The Potential To Emit (PTE) emissions for the AMPAC plant are currently calculated at the following values:

	Pollutant	Tons/yr
A.	PM_{10}	14.85
B.	SO_2	0.19
C.	NO_x	9.93
D.	CO	6.36
E.	VOC	4.02
F.	HAPs	
	Hydrochloric Acid (HCL)	0.50
	Methanol	1.63
	Total HAPs	2.13
G.	Ammonia	6.55

Sincerely,

John T. Blanchard, Manager
New Source Review Section